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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PATEL, PARESH H

ART UNIT PAPER NUMBER

2829

DATE MAILED: 01/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,385

Applicant(s)

GOLD ET AL.

Examiner

Paresh Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 19-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received. *
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-18, drawn to an apparatus and a method to indicate a thermal sensor is functioning properly, classified in class 324, subclass 153.
- II. Claims 19-24, drawn to a thermal sensor with serial interface, classified in class 324, subclass 760.
- III. Claims 25-29, drawn to a method for reporting a temperature sensed by a thermal sensor, classified in class 341, subclass 118.

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because serial interface is not required to transfer data. The subcombination has separate utility such as to sense the temperature of cooling fan of computer.

Inventions III and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the

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particulars of the subcombination as claimed because serial interface is not required to transfer data. The subcombination has separate utility such as to sense the temperature of cooling fan of computer.

Inventions I and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because affixing a value to temperature sensor is not required to transfer data. The subcombination has separate utility such as to sense the temperature of cooling fan of computer.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with David R. Burns on 01/06/2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 19-29 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the Input/Output (I/O) interface, an input trigger and an indicator of claim 1, a digital Input/Output interface of claim 2, a first Input/Output pin and a second Input/Output pin of claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show "an interface," "clock cycle of clock signal asserted on the clock input node 24," "a fixed number of clock cycles on the clock input node 24" and relation of clock cycle with input/output signal and register as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because of the following informalities: at line 3 "An apparatus" should read --A sensor in an integrated circuit-- . Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: at line 2 on page 6 add --(15)-- after register; at line 23 on page 6, delete "above"; at line 2 on page 7 add --a common-- after and.

Appropriate correction is required.

The disclosure is objected to under 37 CFR 1.71, as being so incomprehensible as to preclude a reasonable search of the prior art by the examiner. For example, the following items are not understood: the first value (not compared with other signal of drawing, why?), the second value (not compared with other signal of drawing, why?), and the third value (not compared with other signal of drawing, why?) of the sensor 14 as defined at lines 13-15 on page 7, and input signal 30 (at what node?) acts as a reset signal to reset the sensor 14 (or a register?) as defined at lines 11-13 on page 7.

Applicant is required to submit an amendment which clarifies the disclosure so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1, specification do not support function of an indicator as described in claim.

Regarding claim 2, specification do not support function of a digital Input/Output interface as described in claim.

Regarding claim 6, specification do not support function of a microprocessor as described in claim.

Regarding claim 7, specification do not support function of VLSI circuit.

Regarding claim 9, a calibrated sensor is not supported by specification as described in claim.

Regarding claim 10, an active sensor is not supported by specification.

Claims 3-5 and 8 are rejected because they depend from rejected claims.

Regarding claim 17, value representative of said temperature indicates an absolute temperature is not supported by specification as described in claim.

Regarding claim 18 value representative of said temperature indicates a relative temperature is not supported by specification as described in claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11, "completion of said step of sensing" wherein how and when sensing is completed is not clear.

Claims 12-18 are rejected because they depend from rejected claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Godfrey (US 6091255):

Regarding claims 1 and 11-13, Godfrey in fig. 1-6 discloses: a thermal sensor [200, 220] in an integrated circuit comprising:

- a register [240, 320] to hold a response of said thermal sensor; and
- an Input/Output (I/O) interface (first and second Input/Output pin) [input and output interface/pin for enable signal and output signal to counter 230 respectively] to receive an input trigger (an input signal) [enable signal from 215] to trigger said response of said thermal sensor and to communicate an indicator [230] that said thermal sensor is sensing the temperature of said integrated circuit followed by said response of said thermal sensor held by said register (writing) and a value (an output signal at completion of sensing and a status signal during sensing) generated by said thermal sensor [lines 41-56 of column 3].

Godfrey merely disclose a value generated by said thermal sensor that indicates said thermal sensor is functioning properly. Godfrey discloses that thermal sensor is generating a value (a signal) and is silent about sensor is functioning properly. It would have been obvious to a person having an ordinary skill in the art at the time the invention was made to understand that when sensor is outputting a signal after triggered by trigger signal, it is proper to understand that the sensor is functioning properly.

Regarding claim 2, Godfrey discloses: the thermal sensor of claim 1, wherein said Input/Output interface comprises a digital Input/Output interface [inherent to input/output of 220, because enable signal enables 220 to generate output signal for counter].

Regarding claim 3, Godfrey discloses: the thermal sensor of claim 2, wherein said digital Input/Output interface comprises at least two electrical contacts [two contact of 220 where enable signal inputs and outputs to 230].

Regarding claim 4, Godfrey discloses: the thermal sensor of claim 3, wherein a first of said at least two electrical contacts receives said input trigger to trigger said response of said thermal sensor [lines 46-49 of column 3].

Regarding claim 5, Godfrey discloses: the thermal sensor of claim 3, wherein a second of said at least two electrical contacts communicates said response of said thermal sensor held by said register [lines 46-51 of column 3].

Regarding claim 6, Godfrey discloses: the thermal sensor of claim 1, wherein said integrated circuit comprises a microprocessor [computer chip 100, lines 9-32 of column 3].

Regarding claim 7, Godfrey discloses: the thermal sensor of claim 1, wherein said integrated circuit comprises a very large scale integration (VLSI) circuit [inherent to transistors of computer chip 100, lines 9-32 of column 3].

Regarding claim 8, Godfrey discloses: the thermal sensor of claim 1, wherein said thermal sensor appends said value to said response of said thermal sensor [lines 49-56 of column 3].

Regarding claim 9, Godfrey discloses: the thermal sensor of claim 1, wherein said thermal sensor is a calibrated sensor [lines 66-67 of column 3 and 1-6 of column 4].

Regarding claim 10, Godfrey discloses: the thermal sensor of claim 1, wherein said thermal sensor is an active sensor [200, 220].

Regarding claim 14, Godfrey discloses: the method of claim 11, wherein said output signal comprises a first portion [signal between 310A to 310B] and a second portion [signal between 310B to 310C and lines 19-46 of column 4].

Regarding claim 15, Godfrey discloses: the method of claim 14, wherein said first portion of said output signal comprises a value representative of said temperature of said integrated circuit [inherent to signal from 310A to 310B using 330].

Regarding claim 16, Godfrey discloses: the method of claim 14, wherein said second portion of said output signal comprises a value representative of said indication

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that said thermal sensor is functioning properly [inherent to signal from 310B and 310C using 330].

Regarding claim 17, Godfrey discloses: the method of claim 15, wherein said value representative of said temperature indicates an absolute temperature [a local temperature].

Regarding claim 18, Godfrey discloses: the method of claim 15, wherein said value representative of said temperature indicates a relative temperature [a local temperature].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 703-306-5859. The examiner can normally be reached on M-F (8:30 to 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Paresh Patel
January 10, 2003


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